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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/444,460	11/22/1999	HIDEAKI FUJITA	1248-0472P-S	8686

7590 11/30/2001

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EXAMINER

KNAUSS, SCOTT A

ART UNIT PAPER NUMBER

2874

DATE MAILED: 11/30/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/444,460

Applicant(s)

FUJITA ET AL.

Examiner

Scott A Knauss

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-33 and 35-46 is/are pending in the application.
- 4a) Of the above claim(s) 19-32 and 37-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,11,13,15,17,33,35,36 and 41-46 is/are rejected.
- 7) ☒ Claim(s) 4,6,8,10,12,14,16,18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of an organic waveguide (claims 1-18 and 33-36) in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the organic waveguide and method of manufacturing are so intimately related that the search of one group would automatically encompass the search of the other group. This is not found persuasive because a method of manufacturing an optical waveguide has a separate class and subclass in 65/385 which would not be automatically encompassed by the search of class 385.
2. The requirement is still deemed proper and is therefore made FINAL..

### ***Claim Objections***

3. Claims 4,6,8,10,12,14,16 and 18 are objected to because of the following informalities: the applicant has canceled claim 2, off of which the claims depend. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 15,17,33,35,36, and 41-46 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,406,406 to Yamamoto et al

6. Yamamoto discloses a waveguide in fig. 7 with all the limitations set forth in the claims, including a core made of an organic polymer (abstract) and a cladding having a smaller refractive index than that of the core that may be an inorganic material such as glass (column 5, lines 20-30). Yamamoto also discloses the use of an adhesive layer (#3) between the core and cladding sections (column 10, lines 2-4).

7. Regarding claims 1,17,33,35,36, and 41-46 applicant is claiming the product including the process of making an optical waveguide, and therefore are of "product-by-process" nature. The courts have been holding for quite some time that: the determination of the patentability of product-process claim is based on the product itself rather than on the process by which the product is made. In re Thrope, 777 F. 2d 695, 227 USPQ 964 (Fed. Cir. 1985); and patentability of a claim to a product does not rest merely on a difference in the method by which that product is made. Rather, it is the product itself which must be new and unobvious. Applicant has chosen to claim the invention in the product form. Thus, a prior art product which possesses the claimed product characteristics can anticipate or render obvious the claimed subject matter regardless of the manner in which it is fabricated. A rejection based on 35 U.S.C. section 102 or alternatively on 35 U.S.C. section 103 of the status is eminently fair and acceptable. In re Brown and Saffer, 173 USPQ 685 and 688; In re Pilkington, 162 USPQ 147.

8. As such, no weight is given to the process steps recited in claims 1,17,33,35,36, and 41-46. The claimed process of making limitations can be used to make the optical waveguide disclosed by Yamamoto.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in view of U.S. Patent No. 5,485,540 to Eda.

12. Yamamoto discloses an optical waveguide with all the limitations as set forth in the claims as stated above, including an inorganic cladding layer, but does not specify the use of a silicon oxide clad layer.

13. Nevertheless, the use of such materials as clad layers is well known in the art. Eda teaches a similar optical waveguide in fig. 21 having a clad layer of silicon oxide formed using chemical vapor deposition.

14. Therefore it would have been obvious to one of ordinary skill in the art to modify the optical waveguide taught by Yamamoto to provide a silicon oxide clad layer. It would be desirable to use materials that are well known in the art as clad layers.

15. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of U.S Patent No. 5,940,568 to Losch.

16. Yamamoto, as modified, discloses all the limitations set forth in the claims as stated above, but fails to disclose a masking clad section for processing the core section.

17. Losch, on the other hand, discloses a planar waveguide that uses a cladding layer as a mask for the purpose of forming a grating in the waveguide (fig. 1, abstract).

18. Therefore it would have been obvious to one of ordinary skill in the art to further modify the optical waveguide taught by Yamamoto to use a masking clad layer for the purpose of forming a grating in the core of a waveguide.

19. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of U.S. Patent No. 5,692,088 to Ishiharada.

20. Yamamoto, as modified, discloses an organic waveguide with all the limitations set forth in the claims, except for a light shield film formed around the core and cladding.

21. Ishiharada, on the other hand, discloses an optical waveguide having a cover layer surrounding the cladding for the purpose of shielding light (column 9, lines 6-31).

22. Therefore it would have been obvious to one of ordinary skill in the art to further modify the waveguide taught by Yamamoto to use the cover layer taught by Ishiharada for the purpose of shielding the optical waveguide from light.

23. Claims 9,11 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in view of Eda as applied to claims 1 and 2 above, and further in view of U.S. Patent No. 5,572,619 to Maruo et al.

24. Yamamoto, as modified, discloses an optical waveguide with all the limitations set forth in the claims, but does not disclose a polyimide core.

25. Maruo, on the other hand, discloses an optical waveguide very similar to the waveguide taught by Yamamoto in figure 1, using a core layer of fluorinated polyimide (column 1, lines 53-67) for the purpose of providing a controllable refractive index and a core with excellent transparency. Maruo also does not disclose silane as a necessary component of polyimide.

26. Therefore it would have been obvious to one of ordinary skill in the art to replace the organic core taught by Yamamoto with the polyimide core taught by Maruo to provide a waveguide with a controllable refractive index core with excellent transparency.

#### ***Remarks***

27. Regarding claims 1,17,33,35,36, and 41-46, the applicant has previously traversed the examiner rejection of product by process claims by arguing that MPEP 2173.05(p) states that a "product claim that defines the claimed product in terms of the process by which it is made, is proper."

28. However, the examiner is not arguing that that the claims are improper, but that the process by which a product is made has no patentable weight.

29. Regarding claim 3, the applicant has traversed the examiners rejection by stating that the examiner has failed to demonstrate how the teachings of Losch address the failures of Yamamoto in forming an embodiment of the present invention. However, the applicant is merely claiming the use of a cladding as a mask, which is clearly disclosed by Losch.

30. Regarding claim 7, the applicant has argued that Eda fails to address the deficiencies of Yamamoto in suggesting an embodiment of the present invention. Nevertheless, since Yamamoto teaches that any known clad material may be used as a cladding layer (column 5, lines 26-28) and Eda, as stated above, teaches the use of a silicon oxide clad layer, one of ordinary skill in the art would have been motivated to use silicon oxide as a clad material in the optical waveguide of Yamamoto.

31. Regarding claims 9,11, and 13, the applicant has argued that Maruo fails to address the deficiencies of Yamamoto and Eda in suggesting an embodiment of the present invention. However, the applicant is merely claiming the use of polyimide as an organic core material in a waveguide, which is clearly disclosed by Maruo, and would have been an obvious choice for a core material in a waveguide.

32. Regarding claims 15 and 17, the applicant has argued that the adhesive layer of Yamamoto is not for preventing separation of the core and clad section. Nevertheless, it is clear from figure 7 and column 10, lines 2-4 that the adhesive (#3) is attached to both the core (#1) and the clad (#2), thus providing adhesion and preventing the separation of the core and clad layers. Regarding claim 17, as stated above, the process by which a product is made has no patentable weight.



***Conclusion***

33. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

34. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Knauss whose telephone number is (703) 305-5043. The examiner can normally be reached on 9-6 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308 - 4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.


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Scott Knauss

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sak  
November 7, 2001



HEMANG SANGHAVI  
PRIMARY EXAMINER